UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105-3901

February 15, 2000

Robert J Hart
WRD - NASQAN
2255 North Gemini Drive
Flagstaff, AZ 86001

Dear ~~Dr. Hart~~ Bob,

Thank you for the invaluable assistance your Lower Colorado River program has provided us in tracking perchlorate concentrations. I am enclosing copies of results of perchlorate analyses of the samples provided by your program to the Environmental Protection Agency's Region 9 Laboratory. Results from subsequent samples received from USGS have not been reported yet, and I will forward those results to you in a more timely manner.

We have been delighted with the collaboration with USGS in 1999, and were are very anxious to continue receiving samples for perchlorate analysis from your program at least through the current year and hopefully for several more years. Two very important factors impacting the perchlorate contamination in the Colorado River are anticipated over the next year. One is the completion of a federal Toxicity Assessment of perchlorate - expected for external review in the Fall of this year - which could raise concerns over the protectiveness of the Colorado River's water quality. Some perchlorate results from Yuma's municipal supply are enclosed, showing perchlorate levels in Raw and Treated water at 6 micrograms/liter, essentially identical to levels measured at Imperial Dam. Concentrations reported by Metropolitan Water District of Southern California and by the Central Arizona Project are in the same range as the Hoover Dam and Imperial Dam samples provided by NASQAN. As a control, we tested five samples of water from Flagstaff and were unable to detect any perchlorate.

A second factor is the initial stages of interception of the source of the perchlorate. Monitoring data are critical for assessing the effectiveness of treatment, estimating how rapidly any effect may be propagated down-river, and determining the need for increased source control. Although it appears that most of the perchlorate entering the Las Vegas Wash near Henderson, Nevada, is through the subsurface, a portion of the shallow groundwater surfaces at a seep before flowing into the Wash. A grab sample of the seep water analyzed by EPA (reported along with the Hoover Dam results) showed 70,000 µg/ l. Concentrations of 100,000 µg/l have been reported in the water flowing from this seep and from water ponded in nearby depressions. As of the middle of November, 1999, Kerr-McGee has been intercepting and treating the seep water. It appears that the concentration of perchlorate in the Las Vegas Wash prior to its entering Lake Mead has diminished somewhat. Grab samples from Las Vegas Wash at Northshore Road (downstream from USGS's gaging station) are analyzed by a private lab under agreement with Nevada Division of Environmental Protection. Results from 1998 and 1999 are enclosed. EPA split samples in

October, 1999 (prior to the interception) and December 1999. Our results were reasonably comparable:

October:	GES - 760 µg/l,	EPA - 820 µg/l;
December:	GES - 560 µg/l,	EPA - 600 µg/l (preliminary data)

It is unwarranted to draw any conclusions from concentration data alone, without specific streamflow data. However there is hope that the influx of perchlorate will be diminishing, although not as rapidly as we might like.

Thank you again for USGS's contribution to this project. Ron Collins and Bill Roberts have been extremely helpful, and we look forward to working with you for the foreseeable future.

Sincerely,

Kevin Mayer, SFD-7-2
Superfund Site Cleanup Branch

CC: Ronald P Collins
USGS - WRD
6770 S. Paradise Road
Las Vegas, NV 89119

William P Roberts
USGS-WRD
1940 South 3rd Avenue
Yuma, AZ 85364

ENCLOSURES (to All)